

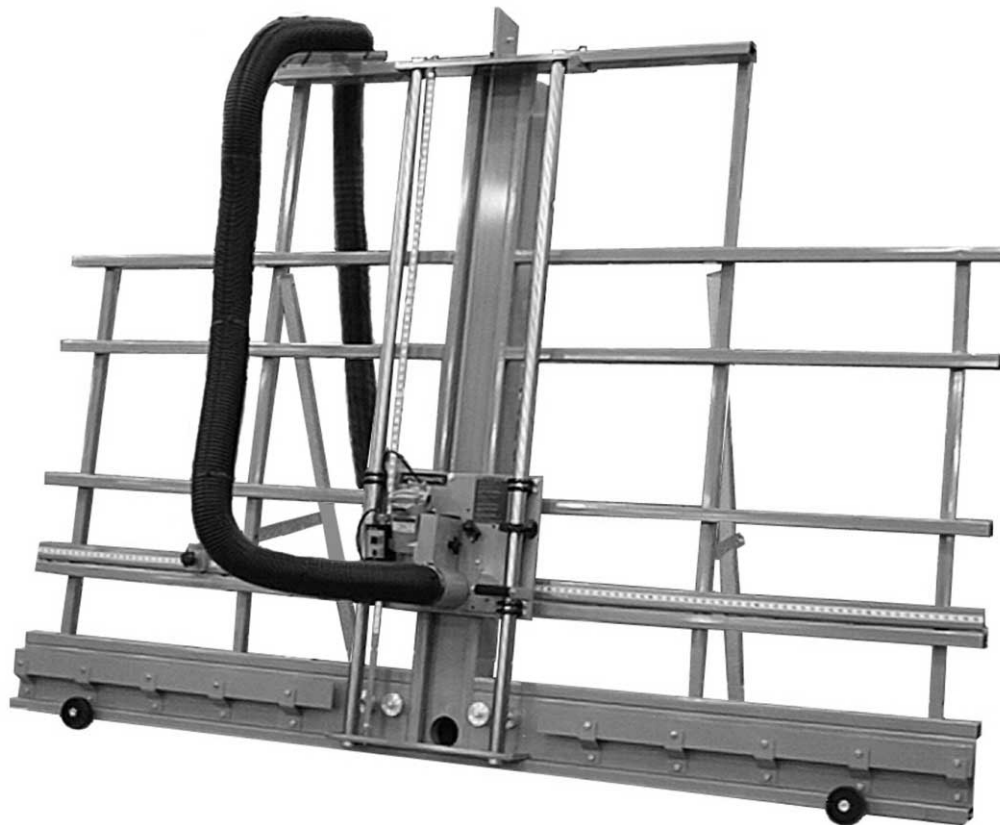
POWERMATIC[®]

WMH TOOL GROUP

Operating Instructions and Parts Manual

Vertical Panel Saw

Model 511



WMH TOOL GROUP

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Revision D 1/05
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This manual has been prepared for the owner and operators of a Powermatic Model 511 Panel Saw. Its purpose, aside from machine operation, is to promote safety using accepted operating and maintenance procedures. To obtain maximum life and efficiency from your panel saw and to aid in using it safely, please read this manual thoroughly and follow the instructions carefully.

Warranty and Service

WMH Tool Group warrants every product it sells. If one of our tools needs service or repair, one of our Authorized Repair Stations located throughout the United States can provide quick service or information.

In most cases, a WMH Tool Group Repair Station can assist in authorizing repair work, obtaining parts, or perform routine or major maintenance repair on your Powermatic product.

For the name of an Authorized Repair Station in your area, please call 1-800-274-6848, or visit our web site at www.wmhtoolgroup.com

More Information

Remember, WMH Tool Group is consistently adding new products to the line. For complete, up-to-date product information, check with your local WMH Tool Group distributor, or visit our web site at www.wmhtoolgroup.com

WMH Tool Group Warranty

WMH Tool Group makes every effort to assure that its products meet high quality and durability standards and warrants to the original retail consumer/purchaser of our products that each product be free from defects in materials and workmanship as follows: 1 YEAR LIMITED WARRANTY ON ALL PRODUCTS UNLESS SPECIFIED OTHERWISE. This Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, normal wear-and-tear, repair or alterations outside our facilities, or to a lack of maintenance.

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To take advantage of this warranty, the product or part must be returned for examination, postage prepaid, to an Authorized Repair Station designated by our office. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection discloses a defect, we will either repair or replace the product at our discretion, or refund the purchase price if we cannot readily and quickly provide a repair or replacement. We will return the repaired product or replacement at WMH Tool Group's expense, but if it is determined there is no defect, or that the defect resulted from causes not within the scope of WMH Tool Group's warranty, then the user must bear the cost of storing and returning the product. This warranty gives you specific legal rights; you may also have other rights, which vary from state to state.

WMH Tool Group sells through distributors only. Members of the WMH Tool Group reserve the right to effect at any time, without prior notice, alterations to parts, fittings and accessory equipment, which they may deem necessary for any reason whatsoever.

Table of Contents

Warranty and Service	2
Warning.....	4
General Operating Instructions.....	7
Operating Tips.....	7
511 Panel Saw Features.....	8
Introduction.....	9
Specifications	9
Installation of Panel Saw.....	10
Uncrating	10
Grounding Instructions	10
Extension Cords.....	11
Operation.....	11
Operating Tips.....	12
Crosscutting.....	12
Ripcutting.....	13
Adjustments.....	14
Changing the Blade.....	14
Adjusting Crosscut Rulers	15
Alignment.....	16
Maintenance.....	18
Replacement Parts	20
Parts List: 511 Panel Saw.....	21
511 Panel Saw.....	24
511 Panel Saw, Motor with Pushbutton Assembly 2475002.....	26
511 Panel Saw Dust Collection System	27
Electrical Connections.....	28
S-B Factory Service Centers	29
Parts List: Skilsaw, Model 586, Type 2 (511 Panel Saw).....	30
Short Panel Fence (Optional Accessory).....	32
Installation of Short Panel Fence	32
Optional Accessories	34
Adjustable Stop (Optional Accessory)	34



Warnings

1. Read and understand the entire owners manual before attempting assembly or operation.
2. Read and understand the warnings posted on the machine and in this manual. Failure to comply with all of these warnings may cause serious injury.
3. Replace the warning labels if they become obscured or removed.
4. This panel saw is designed and intended for use by properly trained and experienced personnel only. If you are not familiar with the proper and safe operation of a panel saw, do not use until proper training and knowledge have been obtained.
5. Do not use this panel saw for other than its intended use. If used for other purposes, WMH Tool Group disclaims any real or implied warranty and holds itself harmless from any injury that may result from that use.
6. Always wear approved safety glasses/face shields while using this panel saw. Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.
7. Before operating this panel saw, remove tie, rings, watches and other jewelry, and roll sleeves up past the elbows. Remove all loose clothing and confine long hair. Non-slip footwear or anti-skid floor strips are recommended. Do **not** wear gloves.
8. Wear ear protectors (plugs or muffs) during extended periods of operation.
9. Some dust created by power sanding, sawing, grinding, drilling and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
 - Lead from lead based paint.
 - Crystalline silica from bricks, cement and other masonry products.
 - Arsenic and chromium from chemically treated lumber.Your risk of exposure varies, depending on how often you do this type of work. To reduce your exposure to these chemicals, work in a well-ventilated area and work with approved safety equipment, such as face or dust masks that are specifically designed to filter out microscopic particles.
10. Do not operate this machine while tired or under the influence of drugs, alcohol or any medication.
11. Make certain the switch is in the **OFF** position before connecting the machine to the power supply.
12. Make certain the machine is properly grounded through the three wire cord that comes with the unit.
13. Make all machine adjustments, blade changes or maintenance with the machine unplugged or locked out from the power source.
14. Remove adjusting keys and wrenches. Form a habit of checking to see that keys and adjusting wrenches are removed from the machine before turning it on.
15. Keep safety guards in place at all times when the machine is in use. If removed for maintenance purposes, use extreme caution and replace the guards immediately.
16. Check damaged parts. Before further use of the machine, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be repaired or replaced. Machine should be properly tagged until repaired.
17. Provide for adequate space surrounding work area and non-glare, overhead lighting.
18. Keep the floor around the machine clean and free of scrap material, oil and grease.
19. Keep visitors a safe distance from the work area. **Keep children away.**



Warnings

20. Make your workshop child proof with padlocks, master switches or by removing starter keys.
21. Give your work undivided attention. Looking around, carrying on a conversation and “horse-play” are careless acts that can result in serious injury.
22. Maintain a balanced stance at all times so that you do not fall or lean against the blade or other moving parts. Do not overreach or use excessive force to perform any machine operation.
23. Use the right tool at the correct speed and feed rate. Do not force a tool or attachment to do a job for which it was not designed. The right tool will do the job better and safer.
24. Use recommended accessories; improper accessories may be hazardous.
25. Maintain tools with care. Keep blades sharp and clean for the best and safest performance. Follow instructions for lubricating and changing accessories.
26. Turn off the machine before cleaning. Use a brush or compressed air to remove chips or debris — do not use your hands.
27. Do not stand on the machine. Serious injury could occur if the machine tips over.
28. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.
29. Remove loose items and unnecessary work pieces from the area before starting the machine.
30. Use common sense; keep hands away from and out from under saw carriage at all times.
31. Do not attempt to disassemble or repair counter-balance.
32. When the machine is not in use, keep the saw carriage locking knob securely tightened.

Familiarize yourself with the following safety notices used in this manual:

CAUTION

This means that if precautions are not heeded, it may result in minor injury and/or possible machine damage.


WARNING

This means that if precautions are not heeded, it may result in serious injury or possibly even death.

- - SAVE THESE INSTRUCTIONS - -

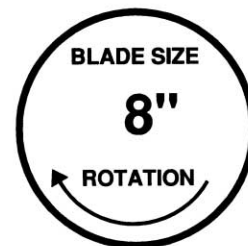
Warnings

Familiarize yourself with the location and content of these decals on your machine.

 **WARNING**

1. FOR YOUR OWN SAFETY, READ INSTRUCTION MANUAL BEFORE OPERATING SAW.
2. ALWAYS WEAR APPROVED EYE PROTECTION WHILE OPERATING THIS SAW.
3. USE SAW BLADE GUARD AND SPREADER FOR EVERY OPERATION INCLUDING THROUGH SAWING.
4. DO NOT CUT MATERIAL SMALLER THAN MOTOR CARRIAGE.
5. DO NOT USE PUSH STICK.
6. KEEP HANDS AWAY FROM SAW BLADE AND NEVER PLACE HANDS UNDER CARRIAGE.
7. DISCONNECT POWER FROM SAW BEFORE REMOVING SAW GUARD OR MAKING ANY ADJUSTMENTS.
8. MATERIAL BEING CUT MAY KICK BACK. KEEP HANDS, BODY AND BYSTANDERS OUT OF PATH OF MATERIAL. SEE INSTRUCTIONS ON PREVENTING KICK BACK.

DO NOT REMOVE OR OBSCURE THIS LABEL



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FIGURE 1

General Operating Instructions

The suggestions listed below are meant to give you a general idea of how your new Panel Saw is intended to be operated. No amount of instruction can replace good common sense and experience. Be sure the operators of your new Panel Saw are given enough time and material to become familiar with the general operating characteristics of this machine and have FULLY READ AND UNDERSTAND all general operating and safety instructions. The panel saw is prealigned at the factory. No assembly or adjustments are necessary.

NOTE: When your Panel Saw is located in position for operation, secure the machine in a manner that will prevent it from being tipped over.

Operating Tips

1. If you expect smooth, clean, chip-free cuts, follow these tips:
 - Use industrial carbide saw blades which are SHARP. Dull blades or improperly sharpened blades will cause chipping, unclean cuts, chatter and will overload the saw motor.
 - **NOTE:** ALWAYS USE A SHARP SAW BLADE. IF IN DOUBT REPLACE IT WITH A NEW BLADE.
 - Feeding the material through the machine horizontally or moving the saw carriage through the material vertically MUST BE DONE SLOWLY, SMOOTHLY AND WHENEVER POSSIBLE WITHOUT STOPPING. Overfeeding will result in poor quality cuts, shorten the life of the carbide saw blades and overload the saw motor.
2. Caution must be used when setting material onto the material roller carriage. Heavy material MUST NOT BE DROPPED ONTO THE ROLLER CARRIAGE. Failure to follow this rule will ultimately cause the roller carriage to be pounded out of alignment.
3. For best results place material to be cut onto the Panel Saw with the back side facing the operator. This will provide the smoothest possible cut on the face side of the panel.
4. Panels being cut horizontally (ripping) must always be fed *against* the rotation of the saw blade.
5. Do not force the saw. It will perform better and can be more easily controlled if allowed to work at the rate for which it was designed.
6. If the saw is stopped in mid-cut, allow the blade to stop. Then back up the saw (if crosscutting) or the board (if ripping) and restart the saw to continue the cut.
7. Thin material, such as paneling, should be properly supported over its length to prevent binding in the blade.
8. Panel Saws are designed to cut large panels down to size. As the overall panel size becomes smaller and smaller other types of sawing machines can become more convenient and safer to use.

511 Panel Saw Features

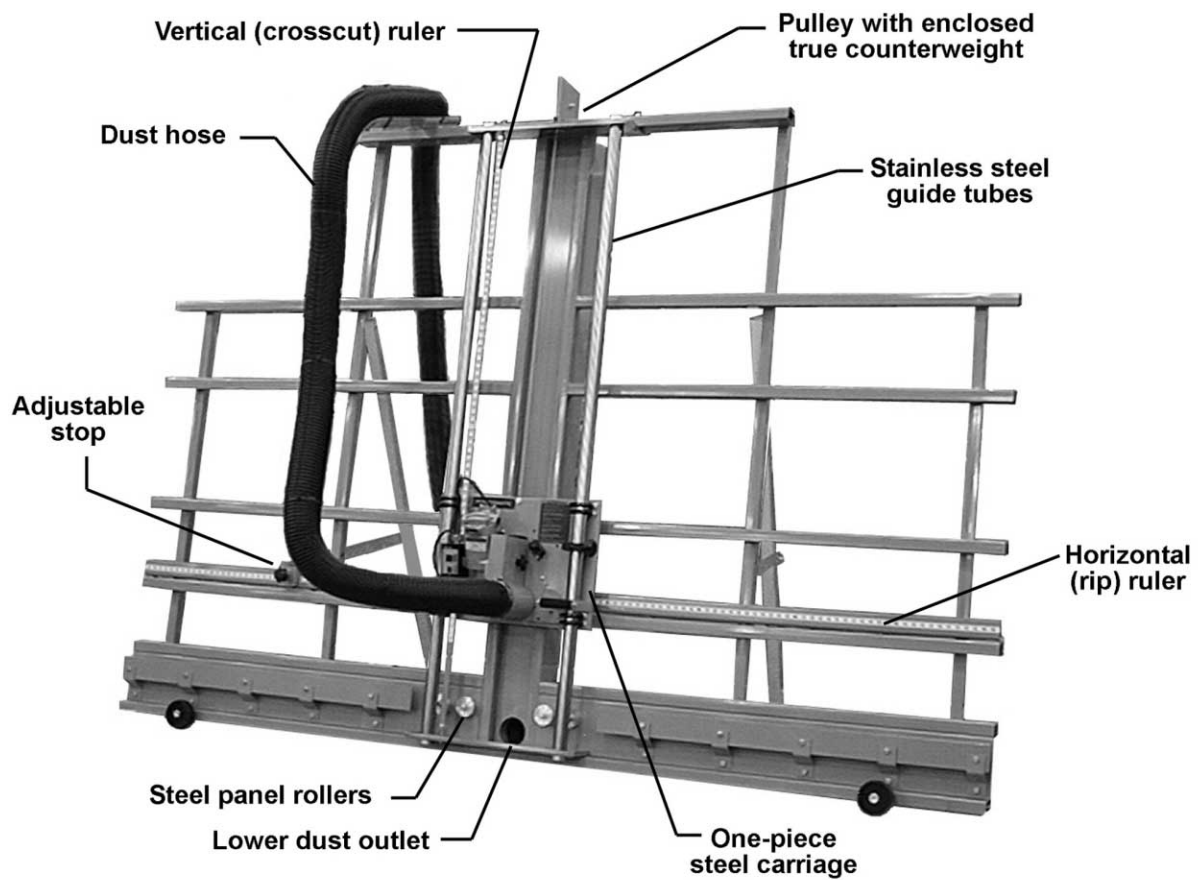


FIGURE 2

Introduction

This manual is provided by Powermatic covering the safe operation and maintenance procedures for a Model 511 Vertical Panel Saw. This manual contains instructions on installation, safety precautions, general operating procedures, maintenance instructions and parts breakdown. This machine has been designed and constructed to provide years of trouble free operation if used in accordance with instructions set forth in this manual. If there are any questions or comments, please contact either your local supplier or WMH Tool Group. WMH Tool Group can also be reached at our web site: www.wmhtoolgroup.com.

Specifications

Model Number	511
Stock Number	1510007
Panel Capacity	10 feet
Maximum Crosscut Length (in.)	62
Maximum Rip Length	Unlimited
Maximum Cut Thickness (in.)	1-1/2
Cut Accuracy, Straight and Square (in.)	1/64
Saw Blade Diameter (in.)	8
Power Requirements	120V, 13 Amps
Overall Dimensions (L x W x H)(in.)	120 x 38 x 86
Net Weight (lbs.)	435
Shipping Weight (lbs.)	500

The above specifications were current at the time this manual was published, but because of our policy of continuous improvement, WMH Tool Group reserves the right to change specifications at any time and without prior notice, without incurring obligations.

Installation of Panel Saw

Uncrating

Remove the panel saw from the shipping container and check for damage. Report any damage to the freight company immediately.

A wooden block and three cables have been fastened to the counterweight to secure it during shipment. This wooden block and cables must be removed before operation of the saw. Follow steps 1 through 4:

1. Make sure the cable attached to the motor carriage is placed over the pulley on top of the panel saw.
2. Loosen the locking knob on the motor carriage and move the carriage down to the bottom of the panel saw. See Figure 3. Tighten the locking knob securely.
3. At the back of the panel saw, on top of the counterweight housing, lift up on the wood block and cut the three cables attached to the block. See Figure 4. DO NOT cut the main cable that runs through the pulley.
4. Remove the cables and wood block so that the counterweight can slide freely inside the housing.

Make sure there is enough space on both sides of the panel saw for loading, passing, and off-loading panels.

Grounding Instructions

⚠WARNING Improper connection of the grounding wire can result in electric shock. If you are unsure whether an outlet is properly grounded, consult a qualified electrician.

Do not modify the plug provided with the saw and never remove the grounding prong from the plug. If cord or plug is damaged, have it repaired before using the machine. If plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

The plug must be connected to a properly grounded outlet, shown in Figure 5, grounded and installed in accordance with all codes and ordinances. If the machine should electrically malfunction or break down, grounding provides a path of least-resistance to carry electricity away from the operator, reducing risk of electric shock.

The grounding prong on the plug is connected through the green wire inside the cord to the grounding system in the machine.



Figure 3

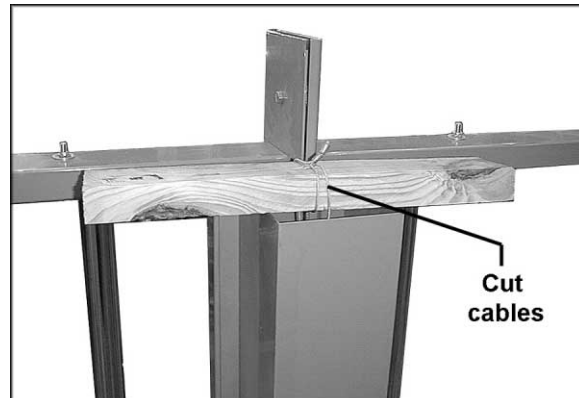


Figure 4

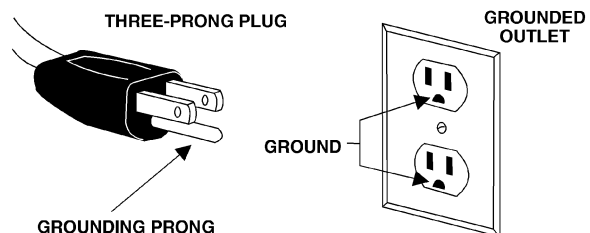


Figure 5

The green wire must be the only wire connected to the machine's grounding system and must never be attached to an electrically "live" terminal.

A temporary adapter, shown in Figure 6, can be used to connect a grounded plug to a two-prong outlet. The green rigid ear or lug extending from the adapter must be connected to a permanent ground such as a properly grounded outlet box or receptacle. Simply remove the center screw from the outlet, insert the adapter and re-attach the screw through the grounding ear to the outlet. If in doubt of proper grounding, call a qualified electrician. A temporary adapter should only be used until a properly grounded outlet can be installed by a qualified electrician. The Canadian Electrical Code prohibits use of temporary adapters.

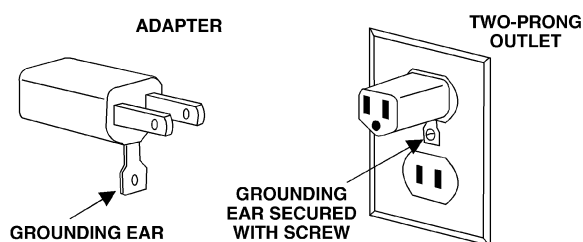


Figure 6

Extension Cords

Grounded tools require a three-wire extension cord. As the distance from the supply outlet increases, a heavier gauge extension cord must be used. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.

Figure 7 shows recommended gauges. The smaller the gauge number of the wire, the greater capacity of the cord (for example, a 12-gauge cord can carry a higher current than a 14-gauge cord). If one extension cord is used for more than one tool, add their nameplate amperes and use the sum to determine the required minimum wire size.

If you are using an extension cord outdoors, be sure it is marked with the suffix "W-A" ("W" in Canada) to indicate that it is acceptable for outdoor use.

Be sure your extension cord is properly wired and in good condition. Always replace a damaged cord or have it repaired by a qualified person before using it. Protect extension cords from sharp objects, excessive heat, and damp or wet areas.

Amps	Extension Cord length*					
	25 feet	50 feet	75 feet	100 feet	150 feet	200 feet
< 5	16	16	16	14	12	12
5 - 8	16	16	14	12	10	----
8 - 12	14	14	12	10	----	----
12-15	12	12	10	10	----	----
15-20	10	10	10	----	----	----

*based on limiting the line voltage drop to 5 volt at 150% of the rated amps

Figure 7

Operation

Crosscut rulers: The panel saw comes with one rip (vertical) ruler and two crosscut (horizontal) rulers. The rip ruler is preset at the factory. The crosscut rulers should be checked and, if necessary, adjusted before operating the saw. Also, they should be adjusted after every blade change. See "Adjusting Crosscut Rulers" on page 15.

Operating Tips

1. Use industrial carbide saw blades that are sharp. Dull blades may cause chipping, chatter or overloading of the motor. If you're not sure whether a blade is sharp, replace it with a new one.
2. Feed material through the saw (ripping) or lower the carriage (crosscutting) slowly, smoothly and whenever possible without stopping. Overfeeding can result in poor quality cuts, shorten the life of the blade, and overload the motor.
3. Do not drop heavy material onto the rollers, as this will eventually pound them out of alignment.
4. For best results, place workpiece onto saw with its backside facing the operator. This provides the smoothest cut on the face side of the panel.
5. Feed workpiece against the rotation of the saw blade when making horizontal cuts (ripping).
6. Panel saws are for cutting large panels down to size. As the panel gets smaller, other types of tools become safer and more convenient to use.

Crosscutting

A crosscut is a vertical cut that is made from the top to the bottom of the workpiece. See Figure 8.

⚠ WARNING Do not place hands on or under the carriage or in path of saw blade.

For safety and accuracy, the workpiece must be supported on at least two rollers while crosscutting. See Figure 8.

When the optional Short Panel Fence is used, the workpiece must extend at least 4" beyond both sides of the carriage, Figure 9.

Here is the basic procedure for crosscutting:

1. Position the saw motor in the crosscutting position with the blade oriented vertically.
2. Loosen carriage locking knob and move carriage to the top of the guides.
3. Move the adjustable stop, shown in Figure 10, to the measurement on the horizontal scale (either left or right side of carriage) that matches the desired width of your cut.
4. Place the workpiece on top the rollers. DO NOT DROP it on the rollers.

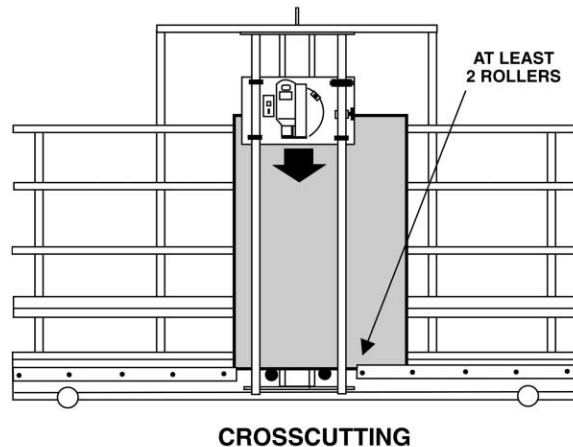


Figure 8

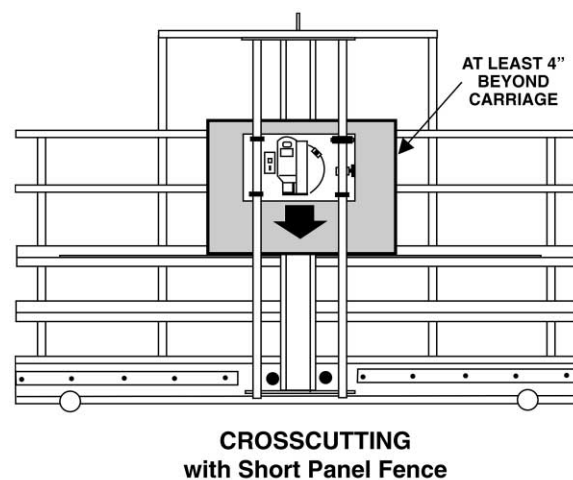


Figure 9

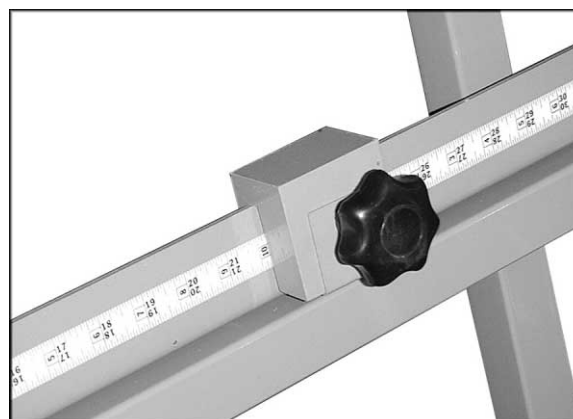


Figure 10

- Slide workpiece into position against the adjustable stop, while double checking the cut size via the crosscut rulers. Make sure workpiece is adequately supported. Use one hand to guide it.

⚠WARNING Do not hold workpiece so that your hand is behind the carriage or guides or near the path of the blade.

- Start motor and allow it to reach full speed.
- Pull carriage down slowly and smoothly as the blade moves through the workpiece. Keep one hand on the handle at all times and do not force the saw.

NOTE: If the blade binds in the workpiece, or the workpiece shifts during the cut, stop the motor, return the carriage to the top of the guides, restart motor, and then begin the cut again.

- Support and remove the cut-off piece as the saw completes its cut.
- Once the cut is complete, turn off the motor and wait for the blade to come to a full stop (NOTE: A coasting saw blade can mar the edge of a freshly cut workpiece).
- Remove the workpieces, return the carriage to the top of the guides, and lock the carriage.

Ripcutting

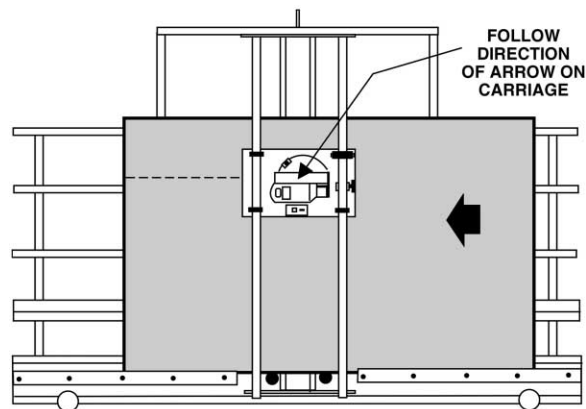
A ripcut is a horizontal cut made right to left. See Figure 11. The workpiece must always be moved in the direction of the arrow on the carriage.

⚠WARNING Ripping must be done in direction of the arrow on saw carriage to prevent risk of injury.

The minimum length recommended for rip (horizontal) cuts is 2-1/2 feet, so that the workpiece can be supported by at least four rollers. (This measurement also applies when using the optional Short Panel Fence). Pieces shorter than 4 feet can be rotated 90 degrees and be crosscut.

Here is the basic procedure for ripcutting:

- Make sure there is enough space on both sides of saw to completely load, pass, and offload the workpiece.
- Pull indexing pin on turntable (Figure 12), and rotate turntable counterclockwise. The indexing pin will lock into place.



RIPCUTTING

Figure 11



Figure 12

3. Select height of saw blade above the rollers. Move the carriage until the index tab is aligned with the corresponding dimension on the vertical ruler. Lock the carriage securely to the guides with the locking knob.
4. Start motor and allow it to reach full speed.
5. Place workpiece on the side of machine according to direction of cut shown by the arrow on the carriage. **DO NOT DROP** workpiece on rollers.
6. With the motor at full speed, move the workpiece slowly and smoothly through the saw. Do not force the workpiece, as it may cause binding.

NOTE: If the blade binds in the workpiece, or the workpiece shifts during the cut, stop the motor, back the workpiece out of the saw, reposition workpiece, restart motor, and then begin the cut again.

⚠ WARNING Do not place hands, clothing or body parts under carriage or in cutting path of blade. Do not look directly down line of cut as dust and debris are generated during this operation.

7. As the workpiece passes through the saw, move to the other side and complete the cut by pulling the workpiece past the blade. Support the upper piece to prevent it from pinching the blade or the kerf protector, or falling away from the machine.
8. When cut is finished, turn off motor and wait for blade to come to a complete stop. Remove workpieces.
9. Rotate turntable back to vertical position and return it to the top of the guides. Lock the carriage.

Adjustments

The 511 Panel Saw is preset at the factory, so no adjustments should be necessary at first. However, certain alignments should be checked, and as the saw gets more use adjustments may be needed.

Changing the Blade

1. Disconnect saw from power source and observe appropriate lockout procedures to prevent machine from being accidentally powered.
2. Tighten carriage lock and remove the blade guard by unscrewing and removing the knob, shown in Figure 13.

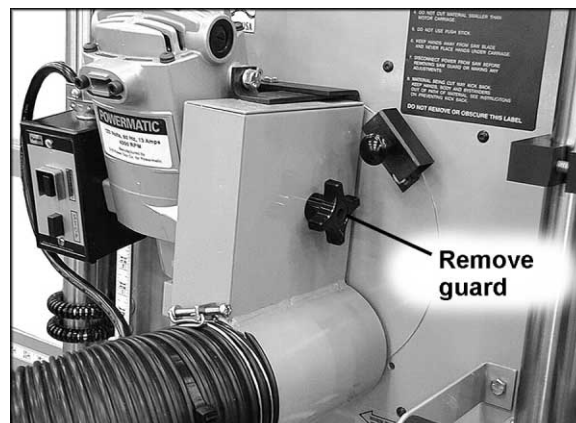


Figure 13

- Engage spindle lock (Figure 14) on the motor to keep spindle from turning. Use the wrench provided to loosen and remove the arbor bolt (NOTE: left hand threads, turn clockwise to loosen). See Figure 15.
- Remove outer flange, blade, and inner flange. See Figure 15.
- Clean spindle, flanges, bolts and blade to remove dust and debris.
- Re-install inner flange, and install new blade with arrow pointing as shown in Figure 15. Reinstall outer flange and tighten arbor bolt with wrench.
- Re-install blade guard.
- Loosen carriage lock and move carriage to the top of the guides. Reconnect power.

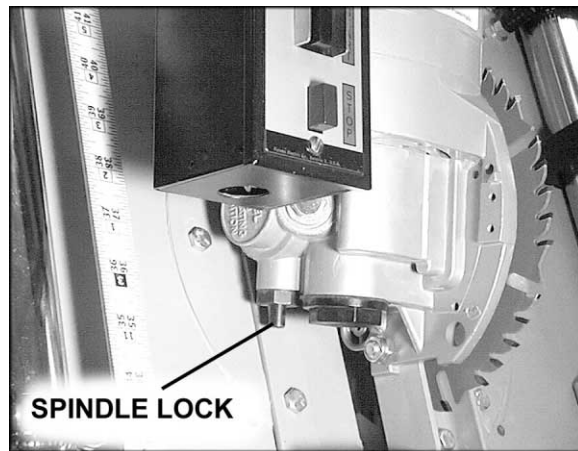


Figure 14

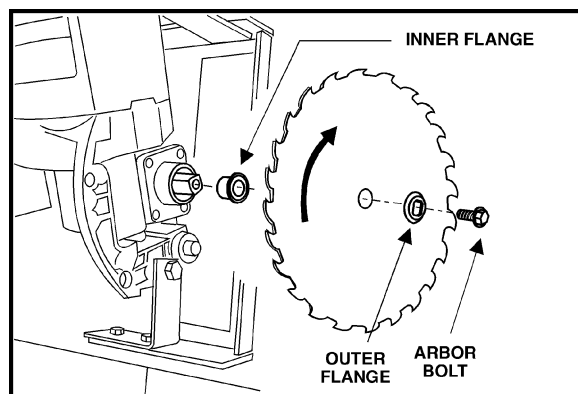


Figure 15

Adjusting Crosscut Rulers

The panel saw comes with one rip (vertical) ruler and two crosscut (horizontal) rulers. The rip ruler is preset at the factory. The crosscut rulers should be checked and, if necessary, adjusted before operating the saw. Also, they may have to be adjusted after every blade change. With the blade installed, do the following:

- Remove blade guard.
- Loosen carriage locking knob and lower carriage down to the rulers.
- Using a square that measures at least 14" on one side, line up one edge of the square with the tips of the saw blade, and the other edge with the crosscut ruler. See Figure 16.
- If these are out of square, loosen the three bolts that hold the angle bracket to which the scale is attached. Slide the angle bracket so that its measure matches the measure on the square.
- Repeat the above steps for the crosscut ruler on the other side.
- Make a test cut to verify that the ruler is lined up correctly.

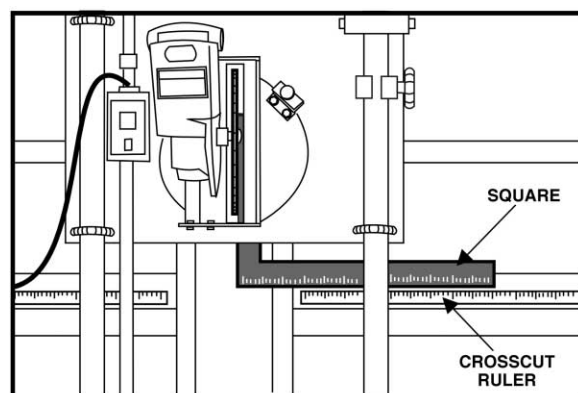


Figure 16

Alignment

If the saw ever needs realignment, it should be performed in the following order:

1. Align rollers.
2. Align guides perpendicular to rollers.
3. Align blade parallel to guides.

To ensure accuracy over the full movement of the saw, construct a test square as follows, (Figure 17):

Use a 6-foot metal ruler and two 4-foot metal rulers (using the 3-, 4-, and 5-ft. measurements ensures squareness). Drill holes and attach the rulers with pop rivets or small nuts and bolts.

The 6-foot ruler is used to check squareness of the rollers. The 4-foot ruler is used to check squareness of the guide tubes.

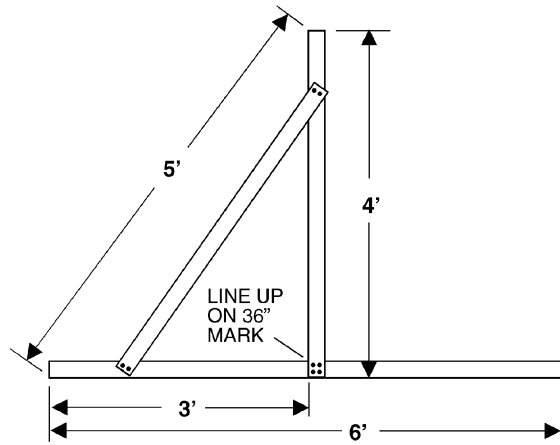


Figure 17

Step 1: Align Rollers

The two outermost rollers are fixed, so adjust all other rollers to them. Place the 6-foot edge of the square across the rollers to check for alignment. The edge of the square should touch all rollers. If it does not, adjust as follows:

1. Clamp the straightedge to the top of the outermost rollers and flat to the frame. Position the clamps above the outermost rollers.
2. Turn each roller to ensure it does not jam or have excessive clearance from the straightedge. If this occurs, loosen the roller nut, shown in Figure 18.
3. The adjustable rollers have an eccentric hub. Turning the roller when the roller nut is loose changes the position of the roller. Turn the roller until it touches the straightedge, making sure the straightedge does not bend. NOTE: The roller panel may have to be loosened in order to turn the roller. See Figure 18.
4. When the roller is positioned, tighten the roller nut. NOTE: If a fixed roller has been replaced, the above procedure should be repeated.
5. Leave the test square clamped to the rollers for the next step.

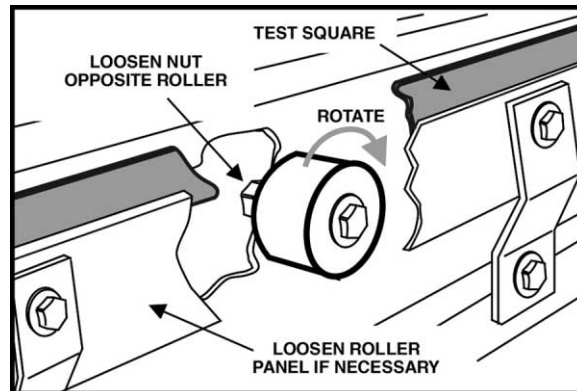


Figure 18

Step 2: Align Guides

⚠WARNING Disconnect saw from power source before aligning the guides.

If the saw does not cut at 90 degrees, the guides may not be perpendicular to the rollers. Adjust as follows:

1. Make sure the rollers are aligned.
2. Remove the blade guard and mark a blade tooth as a reference (NOTE: If the saw has a high speed steel blade, mark a tooth that points toward the edge of your test square, which is still clamped above the rollers.)
3. Pull the carriage down until the reference tooth of the blade just touches the vertical edge of the test square, Figure 19. Continue pulling the carriage down; if the blade does not contact the square, or the blade binds on the square, the guides are not aligned properly.
4. Loosen the guide bracket nuts, Figure 20, but do not remove the bracket. With a dead blow mallet, strike the bracket on the side in the direction you want the guides to go. **Do not strike the guides.**
5. Confirm the squareness of guides to rollers as described above. When satisfied, re-tighten guide bracket nuts.

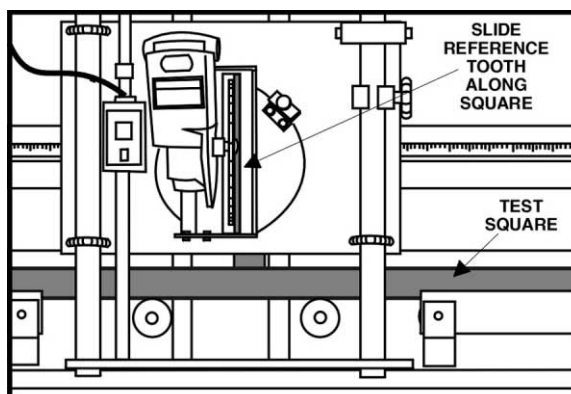


Figure 19

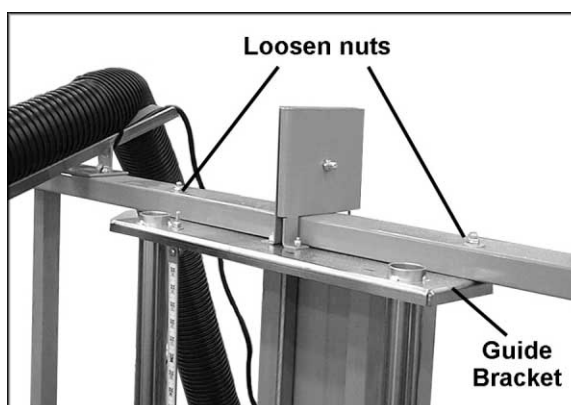


Figure 20

STEP 3: Align Blade Parallel to Guides

The blade must move parallel to the guides or tail burning may occur, and the kerf may be wider than the set of the blade. Always adjust the rollers and guides before adjusting the blade. To check for blade alignment:

1. Make sure rollers and guides are aligned first.
2. If the blade “heels”, or leaves burn marks on the cut, move the carriage to a crosscut position and make a test cut. Examine both sides of the cut to determine which side of the blade is causing the problem.
3. Disconnect power from the saw.
4. Place your test square on the rollers and lower the carriage so the test square overhangs the blade.
5. Place the test square against the blade. The entire face of the blade should contact the test square; if it does not, the blade is in need of alignment.

6. Loosen, but do not remove, the two nuts holding the indexing pin assembly. See Figure 21.
7. If burn marks appear on the *left side* of the workpiece, rotate saw clockwise until entire face of blade contacts your straightedge. If burn marks appear on the *right side* of workpiece, rotate saw counterclockwise until entire face of blade contacts your straightedge.
8. Retighten nuts holding indexing pin assembly.
9. Make a test cut and further adjustments if necessary.

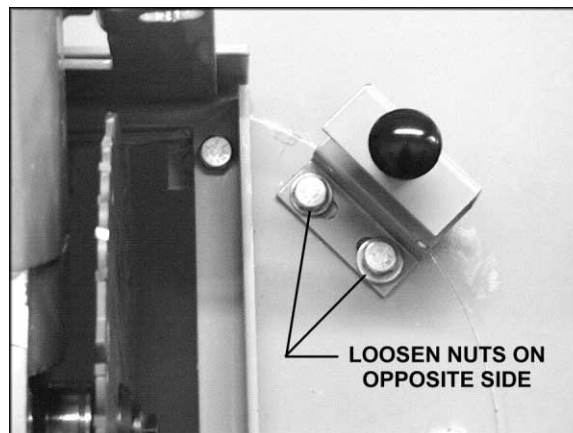


Figure 21

Maintenance

⚠WARNING Always unplug panel saw before performing any adjustments or maintenance. Do not disassemble or do any rewiring to the electrical system; contact a qualified electrician. Always follow proper lockout/tagout procedures during servicing.

Keep the machine in good working order by adopting a routine maintenance program.

Daily:

Use a mild soap and a damp cloth to clean the machine. Before using the saw each time, clean dust from the motor housing vents. Keep the handles clean, dry and free from oil or grease.

Examine the condition of guards, switches, and power cords. Check for misalignment, binding of moving parts, broken parts, loose screws and bolts, etc. If vibration or unusual noise occurs, turn off the saw and correct the problem immediately.

⚠CAUTION Do not use cleaning solvents such as gasoline, turpentine, lacquer thinner, paint thinner, or ammonia, as these are harmful to plastic and some of the insulated parts on the machine. Never use flammable or combustible solvents around tools.

⚠WARNING Do not immerse the saw in liquid as this may create risk of injury, electric shock and damage to the saw.

Periodically:

1. The carriage is designed to move smoothly along the guide tubes. If the guide tubes become caked with dust, the carriage may not slide evenly or become stuck. Occasionally clean the guide tubes with a damp cloth and apply a dry lubricant such as a spray silicone.
2. Rotate the motor to horizontal position and check the motor oil level at the plug. Figure 22 shows the location of the oil plug. If low, fill with SAE 70 or 80 gear oil to proper level. The gear oil should be changed at least once a year, or more frequently if the panel saw receives heavy use.

Every six months:

1. Examine the motor brushes, and replace as necessary.
2. Inspect and clean gears, spindles, bearings, housing, etc.
3. Inspect switch, cord, armature, etc.
4. Test to ensure proper mechanical and electrical performance.

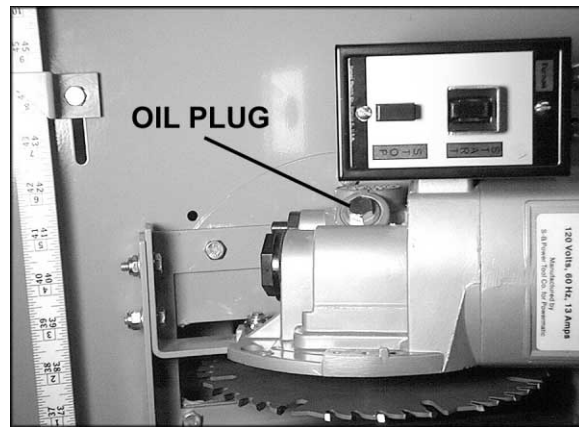


Figure 22

Replacement Parts

Replacements parts are listed on the following pages. To order parts or reach our service department, call 1-800-274-6848 between 7:30 a.m. and 6:00 p.m. (CST), Monday through Friday. Having the Model Number and Serial Number of your machine available when you call will allow us to serve you quickly and accurately.

Parts List: 511 Panel Saw

Index No.	Part No.	Description	Size	Qty
	2078021	Carriage Assembly (Items 15, 17 & 24)		1
1	2218033	Frame Assembly		1
2	2423020	Leg Assembly		1
3	3064715	Leg Fold Out Bracket		2
4	3761160	Adjustable Stop		1
5	3064716	Stop Clamp Bracket		1
6	3019093	Scale Mounting Angle		2
7	3673091	Panel Roller		10
8	3745052	Roller Bushing		2
9	3578352	Roller Panel		2
10	3575079	Foam Pad		2
11	2253075	Guide Tube Assembly		1
12	3449005	Motor Carriage Lock Assembly (Items 41, 98, 99)		1
13	3596129	Scale Mounting Plate		1
14	3601213	Indexing Plunger		1
15	3079220	Motor Carriage		1
16	3575078	Bearing Wear Pad		1
17	3745049	Rotating Disc Spacer		1
18	3042513	Motor Mounting Base		1
19	3064746	Lower Mounting Bracket		1
20	2250234	Guard Assembly		1
21	3064745	Upper Mounting Bracket		1
22	3046221	Roller Bearing		216
23	2750008	Splitter Assembly		1
24	3127019	Rotating Disc		2
25	3064720	Indexing Pin Bracket		1
26	3268220	Pull Handle		1
27	3064750	Handle Bracket		1
28	3326003	Scale Indicator		1
29	3088029	Counterbalance Channel		1
31	3848016	Counter Weight		1
32	3070250	Pulley Bushing		1
33	3064741	Pulley Mounting Bracket (LH)		1
34	3064742	Pulley Mounting Bracket (RH)		1
35	6715289	U-Bolt		8
36	6861301	Flat Washer	3/8	24
37	6516002	Nylon Loc Nut	3/8-16	30
38	6716216	Screw	3/8-16 X 3-1/2	2
39	6716217	Screw	3/8-16 X 2-1/2	12
40	6516028	Wing Nut	3/8-16	2
41	6715020	Socket Head Cap Screw	5/16-18 X 1	6
42	6861200	Lock Washer	5/16	15
43	6430051	Locking Knob		1
44	6715017	Socket Set Screw	5/16-18 x 1	1
45	6108003	Caster	4"	2
46	6714270	Eyebolt	1/4-20 w/ Nut	2
47	6514022	Nylon Loc Nut	1/4-20	2
48	6514011	Jam Nut	1/4-20	1
49	6714269	Hex Head Screw	1/4-20 X 3/4	4
50	6714015	Screw	1/4-20 X 1/2	2
51	80-3133	Knob		1
52	6515001	Hex Nut	5/16-18	16
53	6861201	Flat Washer	5/16	18
54	6716030	Screw	3/8-16 X 3/4	14
55	6430052	Knob		1

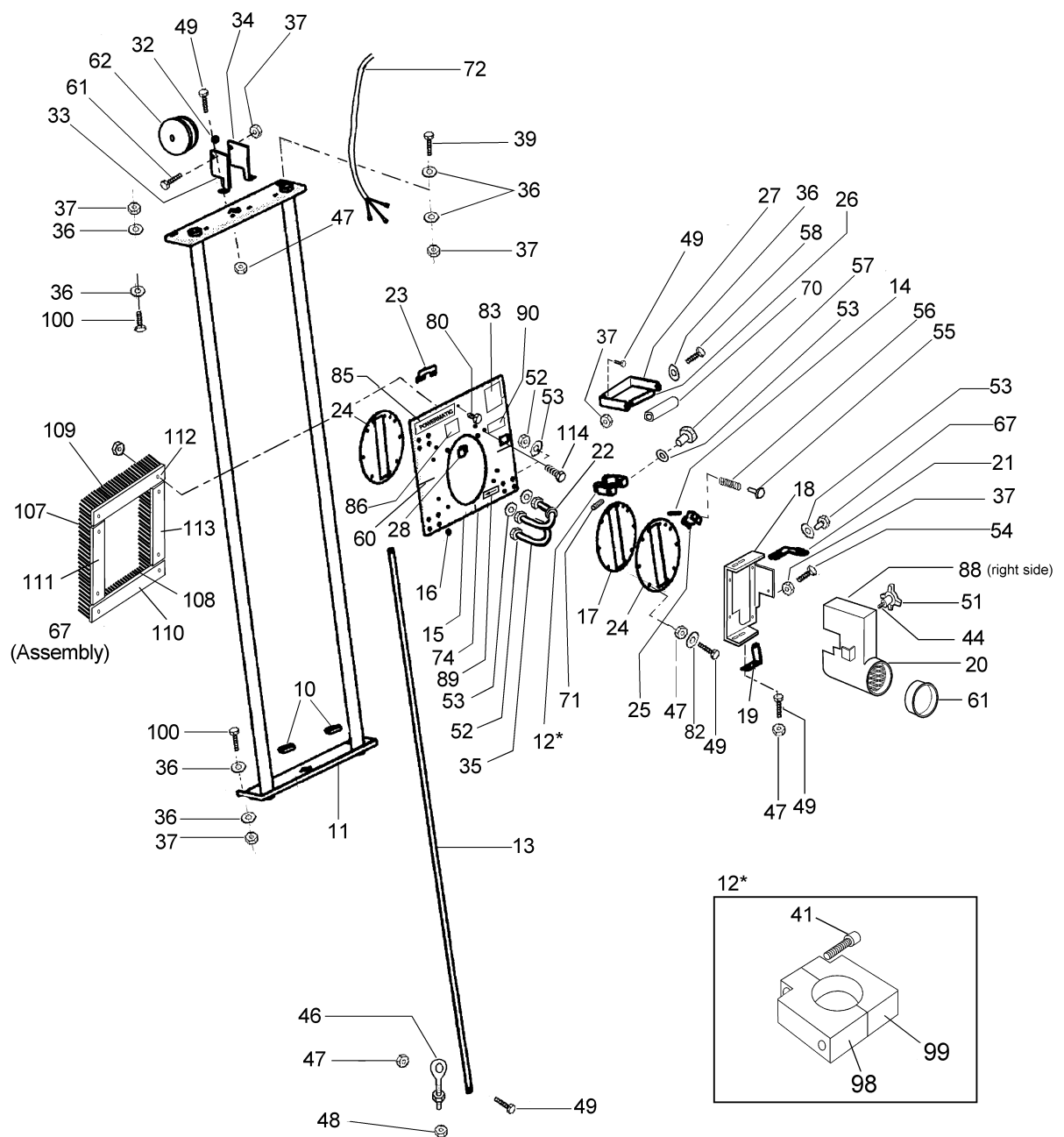
Index No.	Part No.	Description	Size	Qty
56	6813142	Spring		1
57	6430050	Locking Knob		1
58	6716218	Hex Head Screw	3/8-16 X 5	1
59	2063181	Motor Bracket Strain Relief Assembly		1
60	6823020	Indicator Stripe		2 inches
61	3598060	Tapered Plug		1
62	6646048	Counterbalance Pulley		1
63	6102053	Nylon Coated Cable		1
64	6710154	Self-Tapping Screw	#10-24	6
65	6640017	Tubing Plug		18
66	6687015	Tape Scale		2
67	3069021	Carriage Brush Assembly (Items 107 thru 113)		1
68	3076230	Roller Cam		4
69	6284104	Cable Fitting		4
70	6330009	Grip Foam Handle		1
71	6400012	Insert Threaded w/Flange	5/16-18	2
72	6164014	Cord		1
73	2475003	Motor		1
74	6811286	Shim		4
75	6821497	Pushbutton Switch		1
76	6823018	Poly Tape		5 ft.
77	6710014	Socket Head Cap Screw	#10-24 x 3/8 Lg	1
79	6861323	Nylon Washer	3/8 x 1 x 1/16	2
80	6714167	Hex Head Screw	1/4-20 x 7/8 Lg	1
81	6930004	Connector Duplex		1
82	6861101	Flat Washer	1/4	1
83	3408265	Warning Label		1
85	3312339	Label Logo		1
86	3119080	Label American Flag		1
87	3408249	Label Motor		1
88	3408248	Label Blade Rotation		1
89	3408266	Label Directional Arrow		1
91	6714048	Hex Head Screw	1/4-20 x 1	2
92	6715035	Hex Head Screw	5/16-18 x 3/4	1
93	6860802	Washer	#10	2
94	3856318	Ground Wire		1
95	6710155	Ground Screw (Green)	#10-24	1
97	6286447	Lock Washer	1/4	3
98	3449006	Lock w/ Inserts (6400012)		1
99	3449007	Lock		1
100	6716124	Hex Head Screw	3/8-16 x 2-1/2 Lg	4
102	3673092	Roller	1-1/2 wide	4
103	3064743	Support Bracket		10
104	3076235	Roller Cam		8
105	6716043	Hex Head Screw	3/8-16 x 2-3/4	10
106	2475002	Motor w/ Pushbutton Assembly (Items 50, 59, 73, 75, 77, 81, 87, 94, 95, 97)		1
107	3069022	Side Brush		2
108	3069023	Top Brush		1
109	3069024	Bottom Brush		1
110	3069025	Bottom Brush Holder		1
111	3069026	Left Side Brush Holder		1
112	3069027	Top Brush Holder		1
113	3069028	Right Side Brush Holder		1
114	6710063	Button Socket Head Cap Screw	#10-24 x 1/2	8
115	6510015	Hex (Nylon) Lock Nut	#10-24	8
116	JW1032	Hose	4"	1

Index No.	Part No.	Description	Size	Qty
117	6940064	Cable Tie		7
118	JW1317	Hose Clamp	4" (2-Ring)	1
119	JW1015	Y Fitting	4"	1
120	JW1022	Hose Clamp (Worm Drive)	4"	4
121	3064748	Hose Bracket		1
122	6821498	Ground Kit		1
123	6860801	External Tooth Washer	#10	1

refer to parts list, pages 21-23

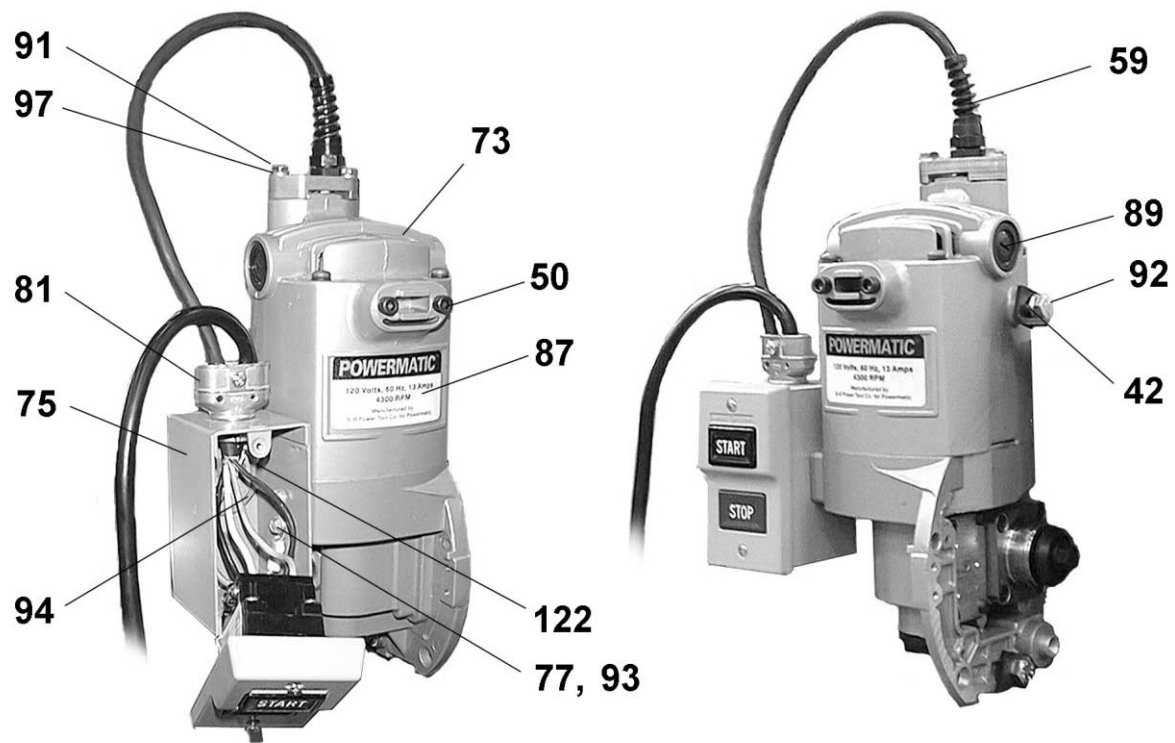
refer to parts list, pages 21-23





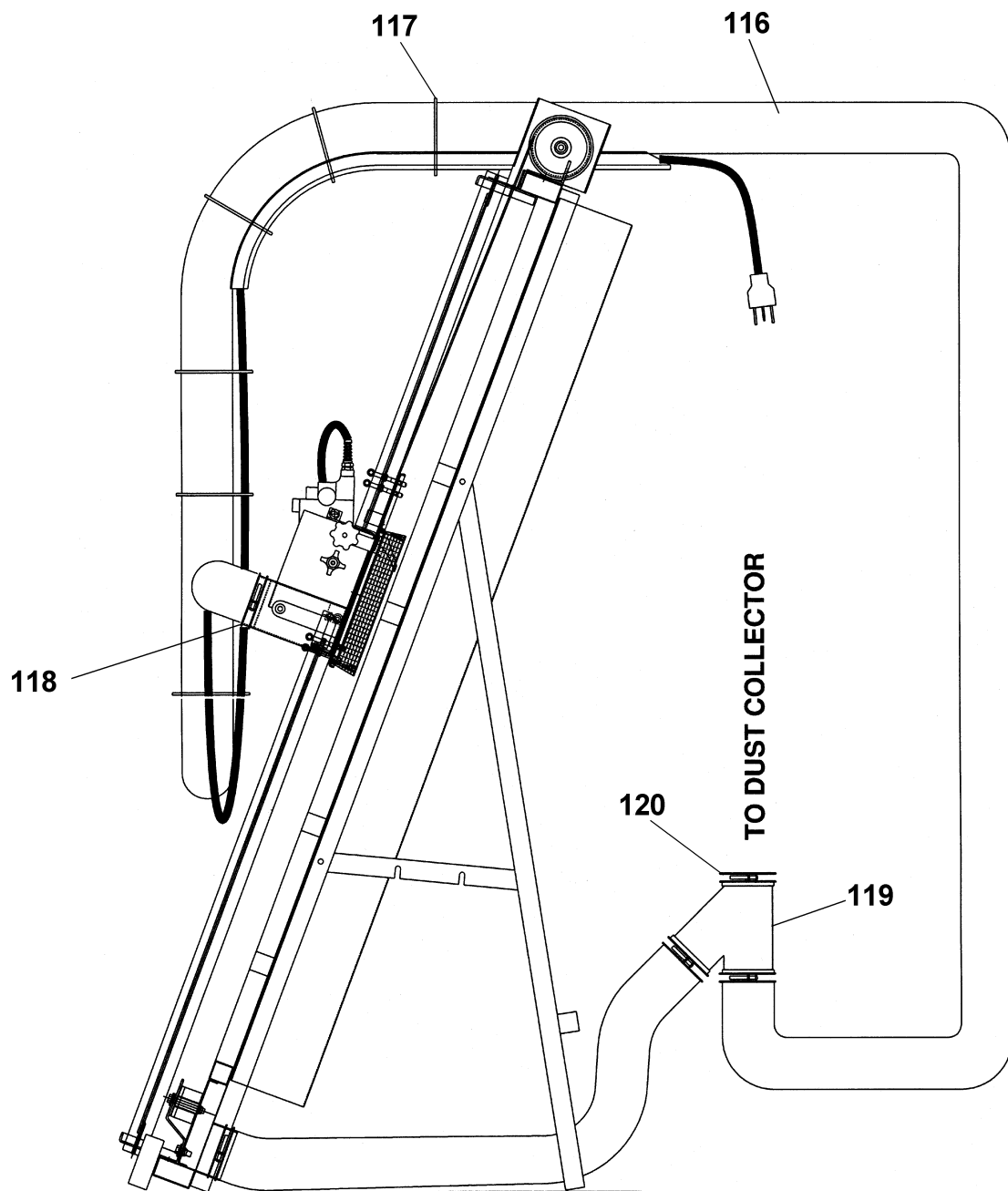
511 Panel Saw, Motor with Pushbutton Assembly 2475002

refer to parts list, pages 21-23



511 Panel Saw Dust Collection System

refer to parts list, pages 21-23



refer to parts list, pages 21-23

Diagram illustrating the wiring connections for a three-phase motor (Figure 10). The motor is shown with a terminal box and a power cord (72) connected to the terminal box. The terminal box is labeled with the following connections:

- 73**: Motor frame/terminal box cover.
- 81**: Grounding terminal (marked with a ground symbol).
- BLACK**: Line 1 connection.
- WHITE**: Line 2 connection.
- GREEN**: Line 3 connection.
- 122**: Line 1 connection (marked with a circle and a diagonal line).
- 77**: Line 2 connection (marked with a circle and a diagonal line).
- 94**: Line 3 connection (marked with a circle and a diagonal line).
- 123, 93, 95**: Line 3 connection (marked with a circle and a diagonal line).

S-B Factory Service Centers

for the Skil worm drive motor
800-815-8665

ST	SC#	CITY	TELEPHONE#	ADDRESS	ZIP	FAX#	MANAGER
AZ	77	Phoenix	(602) 272-1121	2729 W. McDowell Road	85009	(602) 272-1302	Brian Cherry
CA	41	Anaheim	(714) 630-3244	1290 N. Grove	92806	(714) 630-9461	Frank Bandera
	2	Onlano	(909) 390-8877	780-A South Milliken Avenue	91761	(909) 390-8706	Bill Kelley
	26	Sacramento	(916) 451-8473	4191-A Power Inn Road	95826	(916) 455-5612	Karen Jo Hall
	79	San Diego	(619) 268-8335	8898 Clairemont Mesa, #G	92123	(619) 292-5202	Mike Bergel
	48	Santa Clara	(408) 727-9444	2130 De La Cruz Blvd.	95050	(408) 727-8220	Darrell Wheeler
CO	60	Denver	(303) 893-5123	678 Bryant Street	80204	(303) 595-8878	Don Jordan
FL	39	Jacksonville	(904) 398-0728	3728 Phillips Highway 2	32207	(904) 396-7028	Dennis Soucek
	3	Hialeah (Miami)	(305) 624-9011	16171 N.W. 57th Avenue	33014	(305) 628-3627	Fabian Arienti
	43	Tampa	(813) 289-3770	5133 W. Cypress Street	33607	(813) 289-9841	Bob Bellott
GA	4	Atlanta	(770) 452-8192	5717 Peachtree Indust. Blvd.	30341	(770) 451-6365	Tim Coe/Bob Rios
HI	25	Honolulu	(808) 848-8665	197 Sand Island Access Road	96819	(808) 848-8662	Daniel Gunderson
IL	47	Chicago	(773) 774-0600	5526 N. Milwaukee Avenue	60630	(773) 774-0892	Rick Britton
	24	Chicago(Addison)	(630) 543-8660	608 W. Lake Street	60101	(630) 543-4005	Jack Nielsen
KS	64	Kansas City	(913) 381-3883	7805 Frontage Road	66204	(913) 381-3831	Pat Schmidt
		(Overland Park)					
MA	7	Boston (Norwood)	(617) 255-0272	192 Vanderbilt Avenue	02062	(617) 255-1836	Ron Bachmann
MD	18	Washington DC	(301) 595-1923	5029 Garrett Avenue	20705	(301) 595-4917	Dennis McCollum
		(Beltsville)					
MI	45	Detroit (Farmington Hills)	(810) 476-7788	24405 Halsted Rd.	48335	(810) 476-2259	Mike Brody
MN	6	St. Paul	(612) 645-8744	2225 University Avenue	55114	(612) 645-0656	Dick Murphy
MO	32	St. Louis (Overland)	(314) 427-0200	1922 Innerbelt Business Ctr. Dr	63114	(314) 427-2666	Dan DeJoe
NC	11	Charlotte	(704) 527-3745	4203 South Blvd.	28209	(704) 527-3746	Don Robertson
NJ	17	Edison	(908) 572-0875	20 Truman Dr., South	08817	(908) 572-2265	Robert Penett
NY	42	New York City	(718) 461-0025	131-27 31st Avenue	11354	(718) 461-0350	Phil Lawther
		(Flushing)					
	80	E. Syracuse	(315) 437-3435	600 W. Manlius Street	13057	(315) 437-6026	Gregory Weil
OH	57	Cincinnati	(513) 242-0244	1245 Tennessee Avenue	45229	(513) 641-2501	Joe Carley
	9	Cleveland	(216) 447-0250	5541 Canal Road	44125	(216) 447-0760	Joe Oravec
OR	87	Portland	(503) 234-7418	623 S. E. 12th Avenue	97214	(503) 234-4138	Wayne Phillips
PA	72	Philadelphia	(215) 291-9900	333 E. Hunting Park Avenue	19124	(215) 291-9907	Jack Hamilton
	73	Pittsburgh	(412) 261-6457	3221 Liberty Avenue	15201	(412) 261-6468	Jeffrey Watts
TX	8	Dallas	(972) 241-5385	2457 Walnut Ridge	75229	(972) 247-0447	James Flint
	1	Houston	(713) 681-4893	4930 Dacoma, Suite D	77092	(713) 681-4832	Chris Chinn
VA	44	Norfolk	(757) 855-2035	1333-A Azalea Garden Road	23502	(757) 857-4560	Dave Easter

Parts List: Skilsaw, Model 586, Type 2 (511 Panel Saw)

NOTE: For all parts and service on the Skil worm drive motor, please contact the Skil service center near you from the list on page 29.

Index No.	Part No.	Description	Powermatic Part No.
1	325089	Bearing Cover	
2	23331	Washer	
3	23324	Lock Pin Bushing	
5	325655	Lock Pin	
6	44638	"O" Ring ¹	
7	23394	Spring	
8	17016	Flat Washer	
9	15726	"O" Ring ¹	
10	318324	Self Locking Nut ²	
11	17875	Ball Bearing	
13	357524	Worm & Saw Shaft Assy. ²⁺	
14	306355	Lock Washer (2)	
15	329955	Screw (2)	
16	44639	"O" Ring	
17	23384	Oil Plug	
18	341365	Screw (3)	
19	352140	Screw (2)	
20	315299	Screw (4)	
21	303855	Hood	
22	27002	Screw	
25	24748	Ball Bearing (2)	
26	23330	Seal Collar	
27	329927	Oil Seal ¹	
29	352057	Gear Housing	
30	353289	Screw (4)	
31	23335	Expansion Chamber	
32	23336	Cover Plate	
33	23318	Fan	
34	329954	Screw (4)	
35	329929	Screw	
36	166	Ball Bearing	
37	4521	Loading Spring Washer	
38	329937	Armature	
39	4341	Washer	
40	319494	Rubber Bumper	
42	316596	Terminal (3)	
43	329940	Brush Holder (2)	6861259
45	329947	Field	
46	63	Terminal (2)	
47	329958	Terminal (2)	
48	4459	Loading Spring Washer	
49	17348	Ball Bearing	
53	320173	Screw (Ground to housing)	

¹ Oil Seals and "O" rings must be prelubricated before installation.

⁺ Matched set (Ref #13).

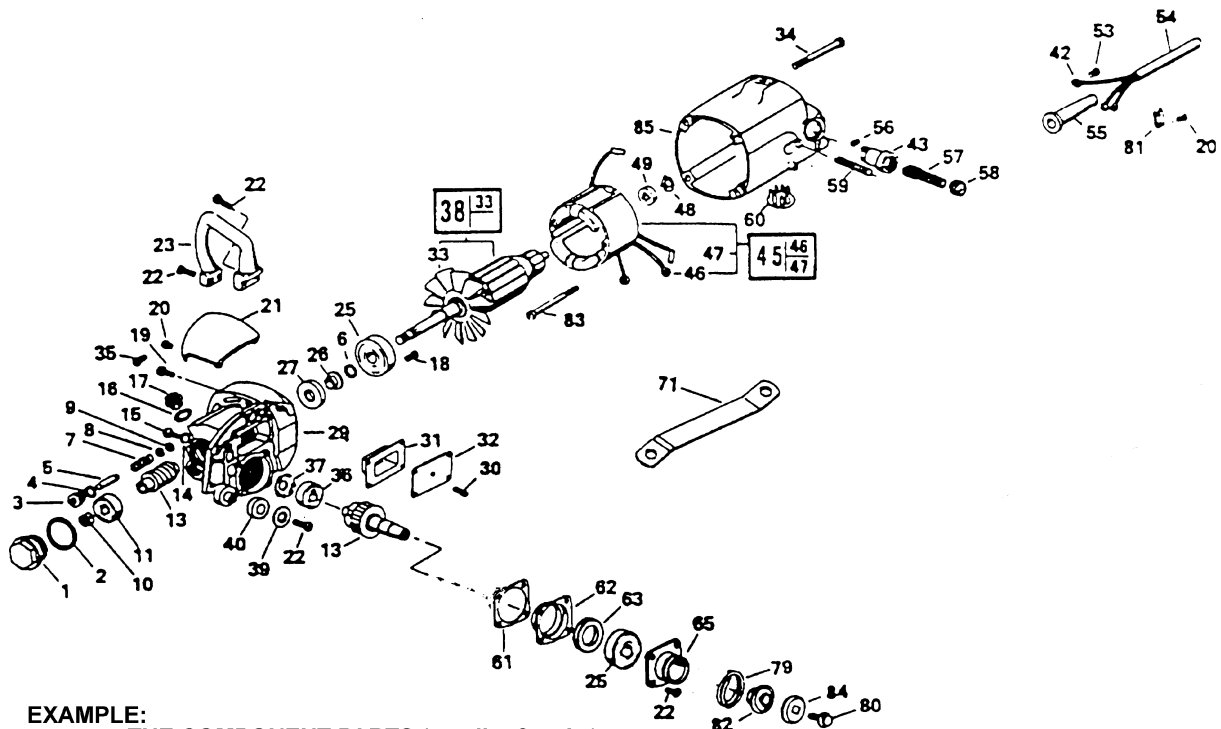
² To obtain proper nut tension, torque nut to 90-100 in. lbs. then back off 1/4 turn.

³ To replace #315286 stud in stripped housing use #13440 oversized stud.

⁴ To convert to 5/8 rd. arbor use: 6861256 outer washer and 6861257 inner washer.

Index No.	Part No.	Description	Powermatic Part No.
54	320881	Cord and Plug	
55	5970	Strain Relief	
56	27039	Set Screw (2)	
57	320391	Brush and Spring (2)	6861260
58	306278	Brush Cap (2)	6861261
59	315286	Stud ³	
60	350005	Plug Button	
61	23334	Gasket	
62	352115	Bearing Plate	
63	25245	Oil Seal ¹	
65	352091	Guard Plate	
71	266	Wrench	6861262
79	341359	Snap Ring	
80	352088	Saw Blade Bolt	6861258
81	3719	Cord Clamp	
82	352118	Inner Washer ⁴	6861257
83	329952	Screw (2)	
84	901964	Outer Washer ⁴	6861256
85	352053	Motor Housing	
	6475009	Motor	

⚠ WARNING Electrical repairs should be attempted only by trained repairmen. Contact the nearest SKIL Service Center or other competent repair service.



EXAMPLE:
 THE COMPONENT PARTS (small ref. no's.)
 ARE INCLUDED WHEN ORDERING
 THE ASSEMBLY PART (LARGE REF. NO.)

Short Panel Fence (Optional Accessory)

The Short Panel Fence is designed as an aid in cutting short panels by bringing the panel up to waist height. The Fence fits on both the left and right sides of the panel saw which gives support when cutting. Figure 23 shows the components of the Short Panel Fence.

Part No.	Description	Size	Qty.
2721005	Short Panel Fence Shelf Assembly		
3064729	Short Panel Fence Bracket R.H.		1
3064730	Short Panel Fence Bracket L.H.		1
3064731	Short Panel Fence Midway Bracket		2
3596135	Side Plate (Shelf)		2
3745051	Spacer		10
6516002	Hex Lock Nut	3/8-16	10
6687015	Tape Scale		2
6716035	Hex Head Cap Screw	3/8-16 x 1-3/4 Lg	10
6746023	Hex Washer Head Screw (Self Tapping)	1/4-20 x 5/8 Lg	10
6861301	Flat Washer	3/8	10

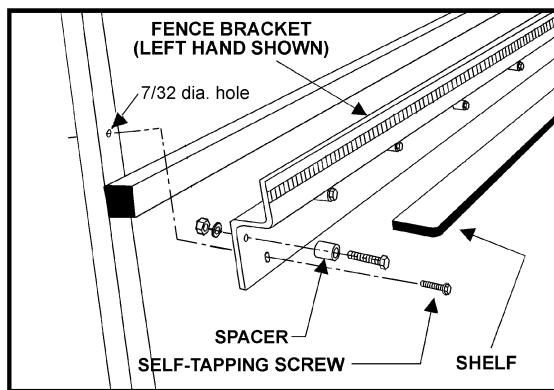


Figure 23

Installation of Short Panel Fence

Step 1:

- On the left side of the panel saw, temporarily place the fence shelf on top of the horizontal cross member of the panel saw frame which is approximately 30" from the floor. See Figure 24. This will space the left hand fence bracket the correct distance off the horizontal cross member.
- Place the left hand fence bracket (bracket with scale reading right to left) on top of the fence shelf (with the scale side of the bracket facing out).
- Align the left side of the bracket with left end of the horizontal cross member. (Note: There should be approximately a 1/2" gap between the bracket and the right end of the horizontal cross member, as shown in Figure 25).

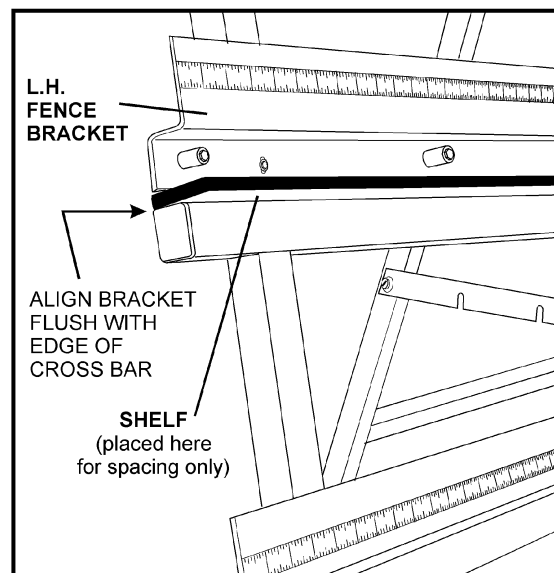


Figure 24

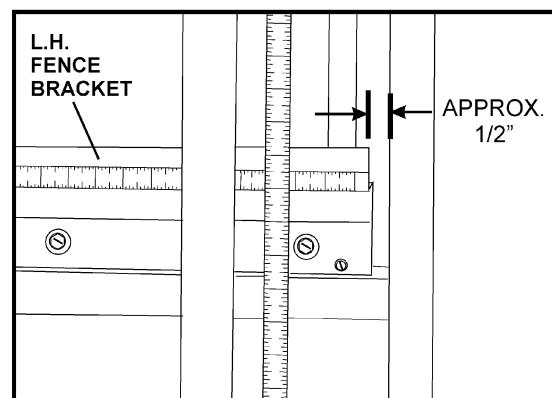


Figure 25

Step 2:

With a power drill, attach the fence bracket to the vertical cross members with the mounting screws provided. The mounting screws provided are self-tapping. (Note: The fence bracket is pre-drilled for mounting.)

Step 3:

Attach the fence mounting bracket to the back side of the panel saw frame, as shown in Figure 26. The edge of the mounting bracket should be approximately 5/8" from the edge of the fence bracket. (Note: The center of the mounting hole on the fence bracket should be aligned with the center of the mounting bracket.) Using a power drill, attach one end of the mounting bracket to the horizontal cross member on which the fence bracket is sitting, and attach the other end to the next horizontal cross member above it.

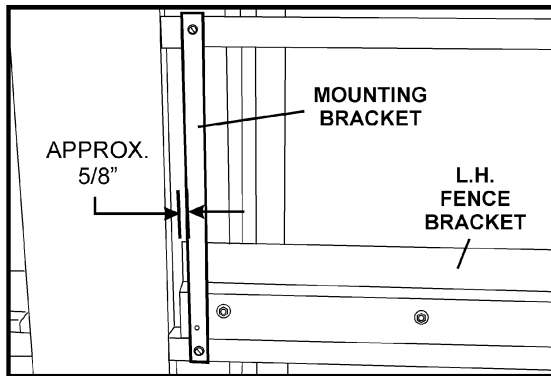


Figure 26

Step 4:

Once the mounting bracket has been secured, return to the front of the panel saw and secure the right end of the fence bracket to the mounting bracket with the mounting screws provided.

Step 5:

With a tape measure, check the distance from the blade to the right end of the fence bracket. The distance should be approximately 4-1/2". (Note: The scale on the fence bracket starts with a measurement of 4-1/2".) If necessary, loosen the three mounting screws on the fence bracket and adjust it so that the exact distance from the blade to the right end of the fence bracket is 4-1/2".

Step 6:

Place the fence shelf between the bracket and the top of the round bushings with the black molding showing. If the shelf is not a snug fit, remove the shelf, loosen the bushing mounting bolts, press up on the bushing, retighten the mounting bolts and re-install the shelf.

Step 7:

To check the shelves for squareness, slide the saw carriage down and place the framing square on top of the left shelf and slide it over to the blade. If the shelf is not square to the blade, loosen the three mounting screws securing the fence bracket, move the bracket until the fence shelf is square to the blade and retighten mounting screws. Make a test cut using an 18" tall panel. Place the panel on the shelf and cut the end. Turn the panel around making sure that the same bottom reference is used and make a second cut. Measure at the top and bottom of the panel to make sure the panel is square. Make adjustments and test cuts as needed until squareness is achieved. **DO NOT make any adjustments to the panel saw itself, only adjust the fence brackets when checking for squareness.**

Step 8:

Install the right side fence bracket to the right side of the panel saw. (Refer to Steps 1 thru 6).

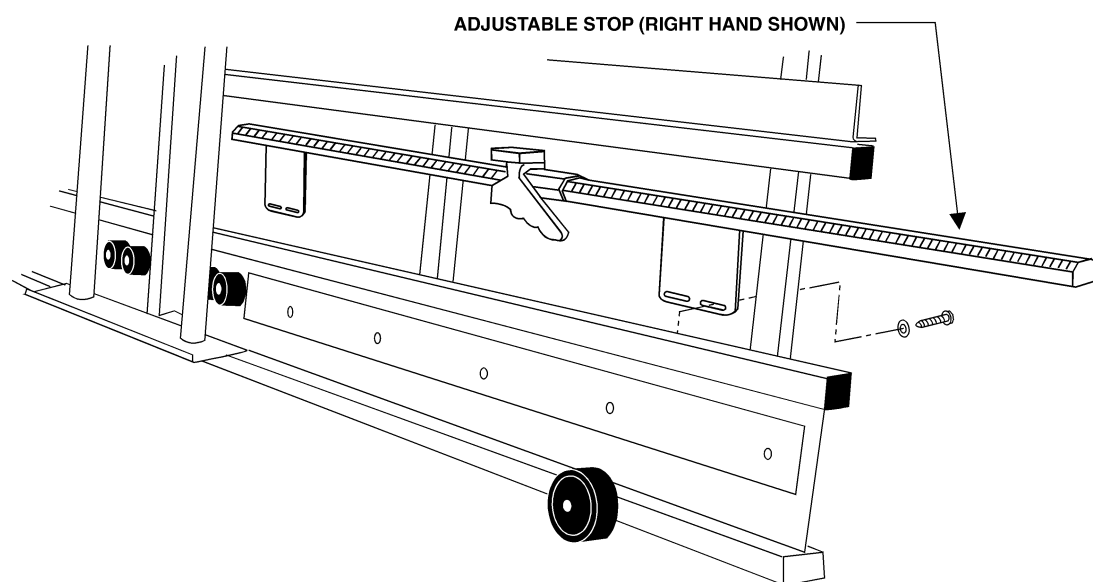
Note: When the Short Panel Fence is not being used, the shelf can be stored behind the fence bracket.

Optional Accessories

Part No.	Description
2721005	Short Panel Fence Shelf Assembly
6080149	CMT Saw Blade
6080150	Amana Saw Blade
6819003	Adjustable Stop (RH)
6819004	Adjustable Stop (LH)

Adjustable Stop (Optional Accessory)

The Adjustable Stop has a 66" scale and is available in right hand or left hand versions. It mounts to the bottom rail of the panel saw as shown.



POWERMATIC[®]

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Elgin, Illinois 60123
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www.wmhtoolgroup.com